Lab: Marriage Matching

Consider an instance of the stable marriage problem given by the following ranking matrix:

	w_1	w_2	w_3
m_1	1,3	2,2	3,1
m_2	3,1	1,3	2,2
m_3	2,2	3,1	1,3

1. Find two marriage matchings that are unstable. For each exhibit a blocking pair

2. Find a stable-marriage matching for this instance **by applying the stable-marriage algorithm**. Be able to explain each step.
   A. in its men-proposing version.
   B. in its women-proposing version.
   ~~C. Explain why the answer to A is man optimal and the answer to B is woman optimal~~

3. Find a stable-marriage matching for the instance defined by the following ranking matrix:

	w_1	w_2	w_3	w_4
m_1	1,3	2,3	3,2	4,3
m_2	1,4	4,1	3,4	2,2
m_3	2,2	1,4	3,3	4,1
m_4	4,1	2,2	3,1	1,4

4. Determine the time-efficiency class of the stable-marriage algorithm:
   A. in the worst case.
   B. in the best case.